IE-iMcV-ModeConverter

Operation Manual

FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B computing device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The use of non-shielded I/O cables may not guarantee compliance with FCC RFI limits. This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

Warranty

IMC Networks warrants to the original end-user purchaser that this product, EXCLUSIVE OF SOFTWARE, shall be free from defects in materials and workmanship under normal and proper use in accordance with IMC Networks' instructions and directions for a period of six (6) years after the original date of purchase. This warranty is subject to the limitations set forth below.

At its option, IMC Networks will repair or replace at no charge the product which proves to be defective within such warranty period. This limited warranty shall not apply if the IMC Networks product has been damaged by unreasonable use, accident, negligence, service or modification by anyone other than an authorized IMC Networks Service Technician or by any other causes unrelated to defective materials or workmanship. Any replaced or repaired products or parts carry a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

To receive in-warranty service, the defective product must be received at IMC Networks no later than the end of the warranty period. The product must be accompanied by proof of purchase, satisfactory to IMC Networks, denoting product serial number and purchase date, a written description of the defect and a Return Merchandise Authorization (RMA) number issued by IMC Networks. No products will be accepted by IMC Networks which do not have an RMA number. For an RMA number, contact IMC Networks at PHONE: (800) 624-1070 (in the U.S and Canada) or (949) 465-3000 or FAX: (949) 465-3020. The end-user shall return the defective product to IMC Networks, freight, customs and handling charges prepaid. End-user agrees to accept all liability for loss of or damages to the returned product during shipment. IMC Networks shall repair or replace the returned product, at its option, and return the repaired or new product to the end-user, freight prepaid, via method to be determined by IMC Networks. IMC Networks shall not be liable for any costs of procurement of substitute goods, loss of profits, or any incidental, consequential, and/or special damages of any kind resulting from a breach of any applicable express or implied warranty, breach of any obligation arising from breach of warranty, or otherwise with respect to the manufacture and sale of any IMC Networks product, whether or not IMC Networks has been advised of the possibility of such loss or damage.

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Every reasonable effort has been made to ensure that IMC Networks product manuals and promotional materials accurately describe IMC Networks product specifications and capabilities at the time of publication. However, because of ongoing improvements and updating of IMC Networks products, IMC Networks cannot guarantee the accuracy of printed materials after the date of publication and disclaims liability for changes, errors or omissions.

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About the IE-iMcV-ModeConverter

The IE-iMcV-ModeConverter is SNMP-manageable and installs in the modular, SNMP-manageable iMediaChassis series and in the unmanaged MediaChassis series.

The IE-iMcV-ModeConverters are protocol-independent modules with SFP ports which can provide a single conversion between single-mode and multi-mode fiber, single-mode to single-mode or multi-mode fiber to single strand single-mode fiber. The supported transmission speeds are: 10-155 Mbps and 622-1250 Mbps. Each module includes two SFP ports that can support SFPs with LC connectors. Single-strand fiber versions are also available with SC connectors.

For information about the IE-iMcV-ModeConverter refer to the IMC Networks web site at: http://www.imcnetworks.com/Support/Downloads.cfm

Configuration Instructions

The IE-iMcV-ModeConverter modules have user-configurable features (e.g., LinkLoss, High Speed SFP, and Low Speed SFP). Refer to the chart for information on available features on each module. Instructions for configuring both managed (via an SNMP-compatible management application such as iView²) and unmanaged modules follow.

Managed Modules

To manage one or more iMcV Modules, an SNMP agent must be present in the chassis. The iMediaChassis series, available in 3, 6 or 20 slots in both AC and DC, requires a separate SNMP Management Module. To configure managed modules, install the module first, then configure it by using the management software. The SNMP management includes an SFP table for both ports if SFPs with DDMI are installed; the SFP table provides information such as temperature, voltage, output power, receive power, vendor serial number, vendor part number and vendor name. The SFP table is viewed through Module Details within iView².

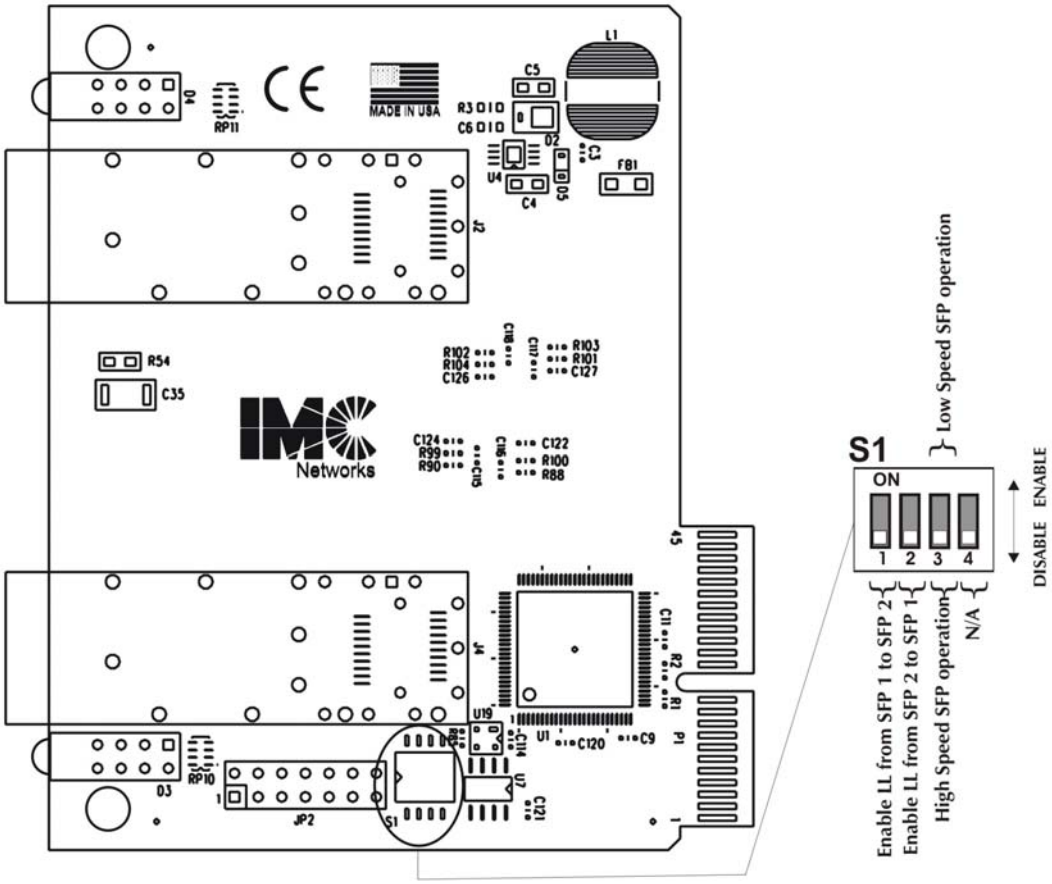
NOTE
Management software overrides any hardware settings (e.g., jumper, switch, etc.), so the module must be configured through the software before beginning normal operation. Until a module installed in a managed chassis is configured via the software, it will operate using the hardware configuration.

Unmanaged Modules

Before beginning installation of the IE-iMcV-ModeConverter, configure it for the desired features. The chart states the available features and settings.

After configuring the DIP Switches for the desired settings, install the module and connect the appropriate cables (refer to the *Installation* section for more information).

Switch #	Function	Default
1	ON to Enable LL from SFP1 to SFP2	OFF
2	ON to Enable LL from SFP2 to SFP1	OFF
3	OFF selects High Speed SFP operation ON selects Low speed operation	OFF
4	N/A	OFF



Installation

The IE-iMcV-ModeConverter Modules install in any IMC Networks SNMP-manageable iMediaChassis series or in any MediaChassis. To install an IE-iMcV-ModeConverter Module, remove the blank bracket covering the slot where the module is to be installed by removing the screws on the outside edges of the bracket. Slide the IE-iMcV-ModeConverter Module into the chassis, via the card guides, until the module is seated securely in the connector. Secure the module to the chassis by tightening the captive screw. Save any blanks removed during installation for future use should configuration requirements change. Install the SFPs necessary for the type of application.

About LinkLoss (FXLL) and SFP Speed

The IE-iMcV-ModeConverter includes LinkLoss (FXLL) and SFP speed control.

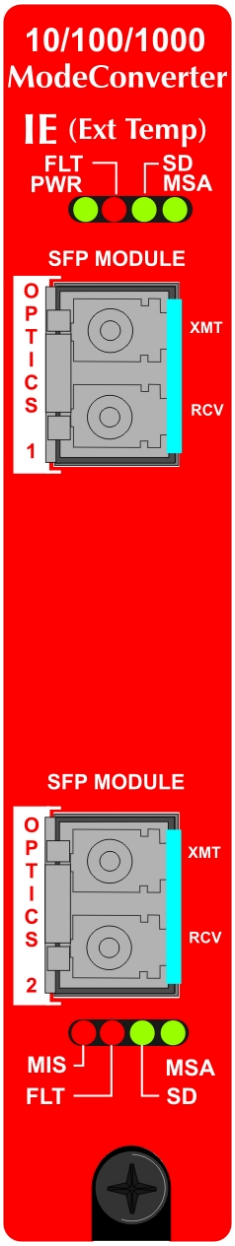
The **FXLL** feature is user selectable through management with the default condition OFF. When a loss of signal is detected on an incoming port, the Optical transmitter on the other port is turned OFF. This provides a FXLL carry forward function to alert the IE-iMcV-ModeConverter down stream of the existing problem. The FXLL feature is bi-directional and can be enabled from SFP1-to-SFP2, from SFP2-to-SFP1, or both at the same time. If FXLL is not enabled, a loss of optical signal on one SFP will force a 25 MHz keep alive signal to be transmitted on the other SFP.

The SFP speed DIP Switch allows the end user to select OFF to support high speed SFP operation for 1.25Gbps. Select ON if installing SFPs that support 155Mbps. The Dual Speed function is only supported by Dual Speed SFPs.

NOTE
Both SFP ports must be populated with the same speed capability. Combining a 1.25Gbps SFP with a 155Mbps SFP will not function properly.

LED Operation

Each IE-iMcV-ModeConverter features diagnostic LEDs that provide information on features and ports.



PWR Power—indicates power is provided to the module
Glows green when unit is powered on and running
Off when unit is not powered (not operating).

FLT Fault—indicates a FAULT condition
Glows red when SFP is missing
Off when there are no alarms/alerts
Blinks red if there is an SFP alarm

SD Signal detect—indicates detection of fiber transmission
Glows green when fiber signal is detected
Glows red when fiber loss of signal is detected

MSA Multi-Source Agreement—indicates that an MSA-compliant SFP has been installed
Glows green when SFP is detected
Off if SFP is not detected

MIS Mismatch—indicates that two different speeds of SFPs have been installed. The IE-iMcV-ModeConverter will only support SFPs of the same speed.
Glows red when there is a speed mismatch
Off when speed is OK

FLT Fault—indicates a FAULT condition
Glows red when SFP is missing
Off when there are no alarms/alerts
Blinks red if there is an SFP alarm

SD Signal detect—indicates detection of fiber transmission
Glows green when fiber signal is detected
Glows red when fiber loss of signal is detected

MSA Multi-Source Agreement—indicates that an MSA-compliant SFP has been installed
Glows green when SFP is detected
Off if SFP is not detected

Installation Troubleshooting

If the MSA LEDs do not light, check that the same speed has been installed. The MIS LED should indicate this condition.

Specifications

Power Consumption (Typical @ 5V):

422mA with SFP ports populated

Operating Temperature

-40°F to +185°F (-40°C to +85°C)

Storage Temperature

-40°F to +185°F (-40°C to +85°C)

Humidity

5 to 95% (non-condensing); 0 to 10,000 ft. altitude

Dimensions

Single Slot iMcV module

IMC Networks Technical Support

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E-Mail: techsupport@imcnetworks.com

Web: www.imcnetworks.com

Fiber Optic Cleaning Guidelines

Fiber Optic transmitters and receivers are extremely susceptible to contamination by particles of dirt or dust, which can obstruct the optic path and cause performance degradation. Good system performance requires clean optics and connector ferrules.

1. Use fiber patch cords (or connectors, if you terminate your own fiber) only from a reputable supplier; low-quality components can cause many hard-to-diagnose problems in an installation.
2. Dust caps are installed at IMC Networks to ensure factory-clean optical devices. These protective caps should not be removed until the moment of connecting the fiber cable to the device. Should it be necessary to disconnect the fiber device, reinstall the protective dust caps.
3. Store spare caps in a dust-free environment such as a sealed plastic bag or box so that when reinstalled they do not introduce any contamination to the optics.
4. If you suspect that the optics have been contaminated, alternate between blasting with clean, dry, compressed air and flushing with methanol to remove particles of dirt.

Electrostatic Discharge Precautions

Electrostatic discharge (ESD) can cause damage to any product, add-in modules or stand alone units, containing electronic components. Always observe the following precautions when installing or handling these kinds of products

1. Do not remove unit from its protective packaging until ready to install.
2. Wear an ESD wrist grounding strap before handling any module or component. If the wrist strap is not available, maintain grounded contact with the system unit throughout any procedure requiring ESD protection.
3. Hold the units by the edges; do not touch the electronic components or gold connectors.
4. After removal, always place the boards on a grounded, static-free surface, ESD pad or in a proper ESD bag. Do not slide the modules or stand alone units over any surface.

WARNING! Integrated circuits and fiber optic components are extremely susceptible to electrostatic discharge damage. Do not handle these components directly unless you are a qualified service technician and use tools and techniques that conform to accepted industry practices.

Safety Certifications

CE: The products described herein comply with the Council Directive on Electromagnetic Compatibility (2004/108/EC) For further details, contact IMC Networks.

CE

Class 1 Laser product, Luokan 1 Laserlaite,
Laser Klasse 1, Appareil A'Laser de Classe 1

European Directive 2002/96/EC (WEEE) requires that any equipment that bears this symbol on product or packaging must not be disposed of with unsorted municipal waste. This symbol indicates that the equipment should be disposed of separately from regular household waste. It is the consumer's responsibility to dispose of this and all equipment so marked through designated collection facilities appointed by government or local authorities. Following these steps through proper disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about proper disposal, please contact local authorities, waste disposal services, or the point of purchase for this equipment.

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